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Montana Online Tax and Reporting System (MOTRS), Department of

Legislative Audit Division

State of Montana

Report to the Legislature

March 1998

EDP Audit

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Montana Online Tax and Reporting System (MOTRS)

Department of Transportation

This report provides information regarding system development controls over MOTRS. It includes recommendations for improving controls to ensure development results meet department expectations. Audit issues address:

- Completing a business area analysis.
- Documenting user acceptance testing procedures and results.
- Completing program and operations documentation.

Direct comments/inquiries to:
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The Legislative Audit Committee
of the Montana State Legislature:

This report is our EDP audit of the Department of Transportation's system development controls relating to its computer-based Montana Online Tax and Reporting System (MOTRS). We reviewed the department's system development controls as related to the MOTRS development contract. This report contains recommendations for improving development controls and contract compliance. Written responses to our audit recommendations are included in the back of the audit report.

We thank the department personnel for their cooperation and assistance throughout the audit.

Sincerely,

Scott A. Seacat
Legislative Auditor

Room 135, State Capitol Building PO Box 201705 Helena, MT 59620-1705
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Legislative Audit Division

EDP Audit

Montana Online Tax and Reporting System (MOTRS)

Department of Transportation

Members of the audit staff involved in this audit were Rene Silverthorne, Rich McRae, and Lon Whitaker.

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Appointed and Administrative Officials

Department of Transportation	Marv Dye, Director
	Bill Salisbury, Administrator, Administration Division
	Darrell Zook, Chief, Accounting Services Bureau
	Marcia Ala, Chief, Licensing and Permitting Bureau
	Dave Galt, Administrator, Motor Carriers Division

Introduction

This is an audit of the Montana Online Tax and Reporting System (MOTRS) at the Department of Transportation (DOT). The audit reviewed system development controls and related development contract criteria. Currently under development by a private contractor, the department intends MOTRS to serve as a comprehensive automated information management system to process statewide fuel tax and motor vehicle carrier licensing data. Background information is included in Chapter I. The audit conclusion and issues are summarized below and discussed further in Chapter II.

System Development Conclusion

System development controls over MOTRS should be improved. The audit reviewed contractor and department compliance with the development contract and identified concerns over system development. The contractor has not provided all required deliverables although the IRP and IFTA modules have been placed into production.

Business Area Analysis

The development contract requires the contractor to complete a business area analysis for each component of the MOTRS project, including a review of the department's current business processes and a determination of key business rules to incorporate into MOTRS programs. The contractor has not completed a business area analysis for remaining MOTRS modules, although the modules are under development.

A complete analysis for MOTRS modules still under development would allow the department to define expectations and assess development results prior to implementation. Without an analysis, development results may fail to meet department needs and require additional system modifications.

Documentation of Acceptance Testing

Industry guidelines suggest management complete acceptance testing before authorizing final acceptance. We found development tasks were closed before the department completed acceptance tests. In addition, the department has not documented its acceptance testing methods and results. Industry guidelines suggest acceptance testing procedures and results be documented to ensure valid tests are completed.

Improved control over testing procedures and the acceptance log will enable the department to ensure development results meet expectations prior to final acceptance. In addition, documented testing results can facilitate subsequent error resolution procedures.

Program and Operations Documentation

The development contract requires that the contractor provide program and operations documentation, and user manuals for each MOTRS module. The contractor has not provided a complete users manual for the IFTA application or technical documentation for any of the MOTRS systems.

Industry guidelines suggest management require technical and user documentation and establish formal procedures to define the system at appropriate levels. Without complete operations or program documentation, system users have no clear direction for system operation. System documentation will help reduce potential delays in testing, approval, and processing.

Chapter I - Introduction and Background

Introduction

This is an audit of the Montana Online Tax and Reporting System (MOTRS) at the Department of Transportation (DOT). MOTRS is currently under development and the department has placed portions of the system into full production. The audit, completed at the department's request, reviewed system development controls and related development contract criteria.

Organization of Report

This report is organized into two chapters. Chapter I provides an introduction, background information, and outlines the audit objectives. Chapter II includes results of our review of system development controls and contract compliance.

System Background

Currently under development by a private contractor, the department intends MOTRS to serve as a comprehensive automated information management system to process statewide fuel tax and motor vehicle carrier licensing data. MOTRS is comprised of two pre-packaged systems developed by the contractor, and custom systems specifically designed to meet department needs. The individual systems will share information and improve management operations and program functions through a single point of inquiry or data entry called a common account. When completed, MOTRS will include the following individual systems:

- VISTA/RS - Vehicle Information System for Tax Apportionment Registration System processes registration of motor carriers in all 50 states as required by the International Registration Plan (IRP). The IRP allows a carrier to license with their base jurisdiction for travel in any of the member jurisdictions. The base jurisdiction collects the registration fee for all states in which the carrier plans to travel.

- VISTA/TS - Vehicle Information System for Tax Apportionment Tax System processes tax revenue collected in all 50 states under the International Fuel Tax Agreement (IFTA). IFTA is a base jurisdiction fuel tax agreement where the carrier's base jurisdiction authorizes the IFTA licensee to travel in all IFTA member jurisdictions. Each licensee is required to maintain a complete record of all fuel purchased, received and used in the conduct of its business.

- SSRS - Single State Registration System processes information about insurance that the client carries. Thirty-nine states nationwide use SSRS to process client carrier insurance data.

- Permitting - Processes and issues permits for carriers traveling on state of Montana highways.

- Accounting Interfaces - Information processed through MOTRS will be processed through existing state of Montana accounting systems such as the Statewide Budget and Accounting System (SBAS) and Highway Online Claims System. Program functions will include accounting, audit, cashiering, and accounts receivable.

The IRP and IFTA modules are packaged or "off-the-shelf" systems which the department has implemented with minimal or no modification. IRP is currently used in several Canadian provinces and all 50 states, including Montana. IFTA is operated throughout Canada and the United States. The overall MOTRS system, which represents the combination of all systems listed above, will be interfaced through a common account, as developed by the contractor per department specification. The common account will allow access to each of the individual systems through a central point. For example, employees will check motor carrier registration, issue permits, evaluate route restrictions, and record applicable fees.

Audit Objectives

The objectives of this audit were to evaluate system development controls specific to the MOTRS data processing environment as implemented by the department and contained in the development contract. The audit also evaluated compliance with development contract criteria by both the contractor and department.

Audit Scope and Methodology

The audit was conducted in accordance with generally accepted government audit standards (GAGAS). We compared the department's system development controls against criteria established by the American Institute of Certified Public Accountants (AICPA), the United States General Accounting Office (GAO), and the electronic data processing (EDP) industry.

The review included an evaluation of department procedures for system design, user involvement, testing procedures, department acceptance, and ongoing maintenance and enhancements. For example, we reviewed the contract to obtain an understanding of the development procedures in place over MOTRS and to identify the department's expectations. Through interviews with department personnel and review of the contract and supporting documentation, we evaluated development controls.

Compliance

The audit reviewed system development activities for compliance with the development contract criteria. For example, we reviewed system development procedures to determine if the department and contractor are meeting their contractual obligations. We compared contract criteria to supporting documentation, interviewed department personnel responsible for development activities, and reviewed development results.

Chapter II - System Development

Introduction

This audit reviewed system development controls as implemented by the department over MOTRS. This chapter discusses our review of MOTRS and provides recommendations where the department can improve development controls. In addition, recommendations address department and contractor compliance with the development contract. System background information on MOTRS is discussed in Chapter I.

System Development Conclusion

System development controls over MOTRS should be improved. The audit reviewed contractor and department compliance with the development contract and identified concerns over system development. The contractor has not provided all required deliverables although the IRP and IFTA modules have been placed into production. The following sections summarize the audit issues and address how the department can improve future processing and development results.

Business Area Analysis

A business area analysis is completed to determine the business or functional requirements to be supported by a proposed system. Typical tasks to complete the analysis include determining user needs through direct interview and a study of existing systems; specifying requirements for security, control, and performance; consolidating user requirement definitions; and establishing strategies for developing, testing and implementing the system. Upon completion, the analysis provides a basis for remaining development phases.

The development contract requires the contractor to complete a business area analysis for each component of the MOTRS project, including a review of the department's current business processes and a determination of key business rules to incorporate into MOTRS programs. The contractor has not completed a business area analysis for remaining MOTRS modules, although the modules are under development.

A complete analysis for MOTRS modules still under development would allow the department to define expectations and assess development results prior to implementation. Without an analysis,

development results may fail to meet department needs and require additional system modifications.

Recommendation #1

We recommend the department obtain a business area analysis for remaining MOTRS modules still under development.

Documentation of Acceptance Testing

The department uses an electronic log maintained by the contractor to track development progress and document completion of user acceptance testing. The contractor includes development tasks on the log and notes when the programming is ready for acceptance testing. When the department completes testing, authorized employees document their acceptance of the components tested, and the task is closed. However, we found instances where tasks were automatically closed without department authorization.

Industry guidelines suggest management complete acceptance testing before authorizing final acceptance. We found development tasks were closed before the department completed acceptance tests. Department personnel indicated they were unaware the task log would automatically close tasks after thirty days. Subsequent to our audit, the contractor modified the task log to ensure tasks are not closed without department authorization.

In addition, the department has not documented its acceptance testing methods and results. Department employees indicated they do not follow any particular testing methodology. Industry guidelines suggest acceptance testing procedures and results be documented to ensure valid tests are completed. Documentation may be useful to employees responsible for troubleshooting subsequent processing issues.

Improved control over testing procedures and the acceptance log will enable the department to ensure development results meet expectations prior to final acceptance. In addition, documented testing results can facilitate subsequent error resolution procedures.

Recommendation #2
We recommend the department document user acceptance testing procedures and results before final acceptance and implementation.

Program and Operations Documentation

The development contract requires that the contractor provide program and operations documentation, and user manuals for each MOTRS module. The contractor has provided a complete users manual for the IRP application, and a partial users manual for the IFTA application. However, the contractor has not provided technical documentation for any of the MOTRS systems.

Industry guidelines suggest management require technical and user documentation and establish formal procedures to define the system at appropriate levels. Without complete operations or program documentation, system users have no clear direction for system operation. System documentation will help reduce potential delays in testing, approval, and processing.

The contractor intends to provide the technical and user documentation upon completion of overall MOTRS development. Documentation should be available for management review and approval prior to system implementation.

Recommendation #3
We recommend the department obtain complete technical and user documentation from the contractor as specified in the development contract.

Agency Response

Montana Department
of Transportation

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March 10, 1998

Scott A. Seacat
Legislative Auditor
Room 135
State Capitol
Helena, MT 59620

Subject: EDP Audit of Department of Transportation's Montana Online Tax and Reporting System (MOTRS).

I am transmitting our response to the EDP audit performed by your office. The recommendations should serve to improve the existing and future situations. Our staff has already begun to address the recommendations with the contractor.

We appreciate the opportunity to work with your staff regarding these issues and thank you for their effort, cooperation, and professionalism during the audit.

If you have any questions concerning our response, please call me at 444-6201.

Marvin Dye
Director of Transportation

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Recommendation # 1
We recommend the department obtain a business area analysis for remaining MOTRS modules still under development.

Response

Concur.

The department has a business area analysis (BAA) for those modules that are completed. We are currently developing BAA's for the modules we will be implementing. This is an ongoing process for modules that are identified and then implemented.

Recommendation #2
We recommend the department document user acceptance testing procedures and results before final acceptance and implementation.

Response

Concur.

The contractor requires user acceptance testing and documentation before final acceptance. The department does not specifically document the procedures and then document the results as recommended by LAD. We will work with the contractor to develop specific user acceptance testing procedures and results for current and future testing.

Recommendation #3
We recommend the department obtain complete technical and user documentation from the contractor as specified in the development contract.

Response

Concur.

The department has documentation for all modules completed that is MDT specific. The contract language does not permit the contractor to provide MDT with any documentation for core proprietary modules we have purchased. We will work with the contractor in providing the documentation for our review and approval prior to implementation.

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